July 2006 Socio-economic Series 06-017

Profile and Prospects of the Factory-built Housing Industry in Canada

INTRODUCTION

Canada's residential construction sector contributes about $80 billion to the Canadian economy annually. Relative to the traditional residential construction industry, the factory-built housing sector in Canada is still quite small – production amounts to about $1.2 billion. Despite its small size, the sector is an important part of the homebuilding industry, creating opportunities for expanding housing exports, meeting environmental challenges and contributing to innovation in residential construction.

This research study identified several major categories of factory-built units available in Canada, including:

- Manufactured homes;
- Modular homes;
- Pre-cut or pre-engineered homes;
- Log or timber-frame homes;
- Multi-unit residential modular homes; and
- Wood-frame non-residential units.

Manufactured homes and modular homes are the two largest segments of the single-family residential factory-built housing sector.

Manufactured homes, usually called mobile homes, are completely built in a factory. Generally single storey, manufactured homes are transported to the building site in one or two complete sections and assembled with little on-site construction on surface-mount foundations. In Canada, manufactured homes now account for 23 per cent of single-family factory-built residential production.

A modular home is a factory-built house made up of independent, finished sections which are assembled on a permanent foundation at a building site. Any number of modules can be assembled into single- or multi-storey homes. Sometimes, modules are used to build townhouses or low-rise apartment buildings. Modular homes account for more than 40 per cent of single-family, factory-built housing production and are becoming more popular.

METHODOLOGY

The researchers used a variety of data-gathering techniques to develop a profile of the factory-built sector, to document the integration of factory-built homes and components into the Canadian housing industry and discuss the level of innovation in the housing industry.

This study combined principal data on the size and scope of the factory-built housing industry with interviews with industry stakeholders and field visits.

Researchers interviewed industry stakeholders, including factory-built housing producers, retailers-distributors and market analysts. Housing producers, retail centres and factory-built housing communities were visited in British Columbia, Alberta, Ontario, Quebec and New Brunswick. Information was gathered from key industry information sources, including analysts at CMHC, Statistics Canada, Industry Canada, the Canadian Manufactured Housing Institute, the Manufactured Housing Association of Canada and private consultants.

INDUSTRY PROFILE

Traditionally, the factory-built housing sector in Canada has focused on manufactured housing, much of which has been placed on leased land in mobile-home communities. This market segment is giving way to a market defined by consumers buying modular or pre-engineered homes to place on permanent foundations on land they own.

In 1996, CMHC published *A Structural Profile of the Manufactured Housing Industry in Canada, United States, Japan and Germany*, which was based on 1993 data. The present study uses the benchmarks from the 1996 study and data from 2004 to track the development of the industry since 1993.

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However, methodological differences between this study and the 1996 study limit the direct comparability of the two. For example, this study includes the non-wood, panelized housing sector. The 1996 study did not consider panelized housing because it was a small industry segment in 1993.

Table 1 - Factory-built housing production, 1993-2004

	2004	Market share[1]	1993	Market share[1]
Total units	24,440		17,330	
Non-residential[2]	7,550		2,343	
Multi-family units	2,090		1,289	
Single-family units	14,800		13,698	
Manufactured homes	3,420	23 %	3,033	22 %
Modular homes	6,160	42 %	4,679	34 %
Other	5,220	35 %	5,986	44 %

[1] Percentage of total single-family unit production.

[2] Non-residential uses include uses such as work camps and community centres.

In 2003, the factory-built housing sector in Canada was comprised of 190 firms, 47 per cent of which were located in Western Canada. In general, Canadian producers operate at full-capacity and are solvent. Data from Statistics Canada's *Annual Survey of Manufacturing* suggests that profitability in the five years leading up to 2003 was about 15 per cent for the industry.

Between 1994 and 2004, the price of factory-built homes rose by 37 per cent, or 3.1 per cent per year. Over the same period, prices for newly constructed, site-built homes (excluding land costs) rose by 28 per cent. This price trend is an indication of the increasing size of finished, factory-built homes and the improved quality of their construction materials. Even with increased quality standards, a factory-built home still costs an estimated 18 per cent less per square metre to produce than an equivalent site-built home.

Domestic sales of factory-built residential units were about $700 million in 2004. Canada also has a large trade surplus in factory-built housing. In 2004, exports of factory-built residential units were $157 million, while imports were $9 million.

The factory-built housing sector has both upstream and downstream inter-dependencies. Important upstream relationships include those with window and door producers, truss fabricators, cabinetmakers and manufacturers of engineered wood products. Strong upstream relationships are critical for factory-built housing producers because production-line efficiency depends on the timely delivery of essential inputs. Important downstream relationships include those with transportation firms and retail-builder networks. Most producers contract out trucking services and rely on retail relationships to market their homes.

ECONOMIC CONDITIONS AND COMPETITIVE ENVIRONMENT

Consumer demand for factory-built housing is steady but rising. Although it is unlikely that consumer demand will turn sharply positive in the short term, there are several factors that suggest demand will remain positive.

Consumer demand for factory-built housing is typically segmented between consumers of relatively low-cost housing, principally occupying manufactured homes located in land-lease communities, and higher-end custom homes.

For higher-end homes, demand remains stable and the sector should continue to benefit from improvements in real incomes and the impact that will have on demand for housing in Canada.

There is also a small but vibrant demand for factory-built vacation homes, particularly pre-engineered housing. While demand for traditional, factory-built homes (manufactured, modular, and wood-based panelized) is steady, the demand for innovative products from this sector appears to be strong.

There is an evolving degree of competition in the Canadian factory-built housing sector. Many producers have marketing campaigns to increase product sales and market share.

Generally, there are four forms of competition in the sector. However, not every producer competes in each of the following ways:

- Competition among factory-built producers within the same segment (for example, modular homes).
  This competition tends to be local, with producers competing with other producers within about 500 km (300 mi.). In this case, typical competitive behaviour, including protection of production or marketing techniques and similar pricing structures, is common.

- Competition with on-site builders.
  The relationship between market penetration and the competitive energy between factory-built producers and on-site builders is driven by the degree to which factory producers successfully market their product to different segments. In a market with high penetration, the factory producers are successfully selling products to a variety of segments. Under these market conditions, greater competition develops with on-site builders, who also focus on the same segments. In markets where factory producers hold only a small share of the market, there tends to be a much less competitive relationship with on-site builders.

- Competition between factory-built producers in different segments (for example, modular producers competing with manufactured producers).
  There is a low degree of this type of competition in some markets. Typically, it is between producers in close proximity to one another. Competitive strategies tend to be marketing-focused, with producers providing information emphasizing the benefits of their segment and the drawbacks of competing segments.

- International competition.
  Only a minority of Canadian producers are engaged in international trade. However, there are instances of industry members working together, often with public-sector partners, to compete as a group internationally. One such example of a public-private partnership is the Super-E® program – an initiative of Natural Resources Canada, CMHC and the Department of Foreign Affairs and International Trade – which markets Canadian expertise in producing energy-efficient, healthy housing to foreign markets.

PUBLIC PERCEPTION

One of the keys to a successful future for the factory-built sector in Canada is improving public perception of the product. In general, factory-built homes are becoming more accepted among homeowners because:

- Quality and aesthetic attributes have improved, including more spacious floor plans, vaulted ceilings, fireplaces and so on, and customized options to meet consumer's demands are becoming increasingly available;

- Many modern factory-built designs can accommodate architectural features that are often indistinguishable from those used in site-built housing.

A number of producers interviewed for this study consider public perceptions of factory-built housing to be turning in a positive direction.

TECHNOLOGY, PRODUCTION PRACTICES AND MATERIALS

The factory-built housing sector is in general a "low-tech" industry and remains relatively labour-intensive. Indeed, technology tends to be little different from that used to construct site-built homes. However, some producers use increasingly sophisticated machines, such as automated and computerized framing jigs, saws and nailing bridges and overhead cranes and scaffolds.

Production processes involved for factory-built homes vary from operation to operation. Although production theory suggests that there should be one more- or less-efficient process, builders in Canada successfully use a variety of differing practices. Most factory-builders use a production line to complete their product and a few have adopted lean-manufacturing principles to take further advantage of the supply efficiencies of the factory-based model.

Building materials for factory-built homes are, in most cases, the same as those for site-built homes, with wood being the most important raw material. The use of value-added wood products, such as oriented strandboard (OSB), varies considerably among manufacturers.

The key to the affordability of factory-built homes is the buying power of the often large-scale producers and the efficiencies of the factory process. The factory setting gives producers benefits, such as:

- Construction occurs in a controlled environment;

- Weather delays that can plague site-built construction do not affect productivity;

- Inventory is better controlled and materials better protected from weather damage and theft;

- A production line allows specialized labour, machinery and tools to be used continuously on specialized tasks; and

- Workers can function as a team in a professionally supervised environment.

The labour-saving and process efficiencies from producing housing in a factory allow the sector to cut the cost of producing housing by about 18 per cent.

INTEGRATION IN THE HOMEBUILDING INDUSTRY

Historically, there has been limited integration between factory-builders and site-built housing producers. Integration, though, is one of the key areas of potential growth for the factory-built sector.

For site-based homebuilders, integration reduces production time and minimizes the need for skilled, on-site labour. For factory-builders, it is an important way to increase market share.

There are several examples of relationships between factory-built producers and on-site builders. The type of integration varies. Some large, on-site builders operate factory-built subsidiaries. Some factory builders control on-site building and development companies.

Greater integration between factory producers and on-site builders is limited by changing housing demand conditions, the rigidity of traditional business practices and potential capacity-constraints for factory builders. Prospects for further integration will rely on potential partnerships between producers of customized modular homes and builders and developers of new subdivisions.

INNOVATION AND ENVIRONMENTAL STEWARDSHIP

Innovation in the housing industry has been slow and gradual. While the manufacturing sector is the largest investor in R&D in Canada, only a very small portion of this spending is done by factory-built housing producers. However, factory-built housing has introduced production improvements to the homebuilding sector in Canada, such as:

- Labour-saving construction techniques;
- Efficient use of materials that minimize waste production;
- Shortened production times;
- Bulk materials procurement; and
- Use of prefabricated components.

Environmentally, the construction of factory-built housing allows more efficient assembly, avoids the negative impact of weather conditions on building materials and reduces waste.

A number of factory-built housing producers are aware of the benefits of promoting their products as environmentally friendly and have incorporated energy-efficiency and indoor air quality standards in their designs to meet Canada's R-2000 standards or U.S. ENERGY STAR specifications. The most economical way of making energy-efficient improvements in housing is during home construction, so the factory-built housing sector should become increasingly important in meeting efficiency objectives.

FACTORY-BUILT SECTOR OUTLOOK

Prospects for factory-built housing depend on:

1. the drivers of traditional housing demand – population growth, household formation and demand for single-family housing units; and
2. the elements that make factory-built housing unique – affordability, level of customization and demand from niche segments such as adult lifestyle communities.

Population growth and household formation rates are expected to decline moderately through 2010 as the population ages and the housing cycle matures. Single-family housing starts are also expected to moderate through 2010 as a result of slowing overall demand for new housing and a continued shift out of single-family houses to apartment-style housing.

Potential demand for factory-built homes also depends on the demographic characteristics of the population. The aging of the baby-boom generation makes niche segments a potential growth area. The housing needs of the "echo" generation (the children of baby boomers) are expected to increase demand for homes that they can afford, which the factory-built sector may be well positioned to provide. As well, because immigration is an important contributor to population growth, the relative affordability of factory-built housing may also appeal to immigrant households.

Several other key trends also bode well for the future of the sector:

- Consumer acceptance of factory-built homes is rising as a result of better design, quality and aesthetic standards;
- Production is turning more towards higher-end modular homes and away from manufactured (or mobile) homes;
- As the market share of factory-built homes increases, cost-effectiveness could improve from a variety of production efficiencies;
- The emergence of a growing market for larger, multi-section, factory-built homes demonstrates greater integration with traditional homebuilding; and
- New technologies and materials, including non-wood based alternatives, are emerging in the factory-built housing sector, offering greater choice to Canadian builders and consumers.

ADDITIONAL SOURCES OF INFORMATION

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Housing Research at CMHC

Under Part IX of the *National Housing Act*, the Government of Canada provides funds to CMHC to conduct research into the social, economic and technical aspects of housing and related fields, and to undertake the publishing and distribution of the results of this research.

This fact sheet is one of a series intended to inform you of the nature and scope of CMHC's research.

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Printed in Canada
Produced by CMHC 26-07-06

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